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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 18-21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya ('754) in view of Itoh ('995).

Regarding claim 16, Tsuchiya ('754) discloses an image forming apparatus (printer, **See Figure 1, Element 10**) having a power save mode and a normal mode (sleep mode and operation mode, **See Col. 7, Line 1**, such that the operation mode is a normal operation mode, **See Col. 13, Line 31-32**), wherein the image forming apparatus includes an image forming portion (printing unit, **See Figure 1, Element 22**) that outputs an image corresponding to data from an external device being located outside of the image forming apparatus (data outputted from the host computer group external to the printer is received in it, **See Figure 1, Element 36; Col. 5, Line 64-66**, and prints the inputted data onto a recording medium, **See Col. 6, Line 5-9**), a controller (power supply control unit for the printer, **See 1, Element 20**) that controls the image forming portion to output the received data after a period of transition from the power save mode to the normal mode (controls the supply of power to the printing unit, **See Col. 6, Line 12-15**, to output the inputted data, **See Col. 6, Line 8-9**, after the power supply control unit releases the sleep mode once incoming data is detected, **See Col. 7,**

**Line 27-38**, so that an operation can be performed that allows the data to be transferred, **See Col. 7, Line 39-41**, and outputted accordingly, **See Col. 6, Line 5-7**), such that the controller includes a processor (CPU, **See Figure 1, Element 12**), wherein the processor is being in an off-state in the power save mode (halts the clock that is supplied to the CPU, which shifts it into sleep mode, **See Col. 6, Line 65-Col. 7, Line 1**) and being in an on-state in the normal mode to control the image forming portion (an operating mode that controls the output of the inputted data, **See Col. 6, Line 5-7**, by having clock provided to the CPU, **See Col. 6, Line 12-14**), and a communication interface (communication I/F, **See Figure 1, Element 24**) that receives the data from the external device (the multiple communication interfaces receive data from the host computer group, **See Col. 5, Line 50-57**), such that in the power save mode (sleep mode), the processor is in the off state and the communication interface is active (while in the sleep mode, the clock is continued to be supplied to the communication I/F, **See Col. 6, Line 65-Col. 7, Line 3**), and the communication interface receives the data during the period of transition (once receiving data is first detected in the printer, the sleep mode is released so that the rest of the data can be transferred, **See Col. 7, Line 27-41**).

Tsuchiya ('754) does not disclose that the communication interface controls a speed for receiving the data during the period of transition.

Itoh ('995) discloses a communication interface (**See Figure 1, Element 36**) that includes a receiver (buffer, **See Figure 2, Element 36a**) and is configured to control a speed for receiving the data during the transition period (the data is received either at

the normal speed or at a lower speed depending on the capacity of the storage during the operation period of either transmitting or receiving data, **See Col. 6, Line 9-23**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling a speed for receiving data, such as the one disclosed within Ito ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it prevents the printer from receiving more data than it is able to store and overload the memory and cause an error as a result.

Regarding claim 18, Tsuchiya ('754) does not disclose that the communication interface controls the speed for receiving the data based on a predictive time length of the period set in the communication interface.

Itoh ('995) discloses that the data received is controlled based on the setting of the timer (**See Col. 5, Line 19-25**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include a time length for controlling the speed of receiving data, such as the one disclosed within Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows a printer to still receive data while completing another task for a designated amount of time without the need to temporarily stop the incoming data.

Regarding claim 19, Tsuchiya ('754) discloses a storing portion (RAM, **See Figure 1, Element 16**) that stores the received data (**See Col. 5, Line 2-4**).

Tsuchiya ('754) does not disclose that the communication interface controls the speed for receiving data based on a residual capacity of the storing portion.

Itoh ('995) discloses that the data received is controlled based on a predetermined capacity (if the memory falls below a predetermined level, the speed for receiving data is reduced, **See Col. 5, Line 26-34**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling the speed for receiving the data based on the capacity of the memory, such as the one disclosed within Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows a printer to still receive data while completing another task without the need to temporarily suspend the incoming data.

Regarding claim 20, Tsuchiya ('754) does not disclose controlling the speed for receiving the data based on information indicating a maximum data payload to be received from the external device.

Itoh ('995) discloses controlling the speed for receiving the maximum data payload based on the data sent from the external device (depending on the amount of data sent from the computer, if it overloads the maximum capacity of the memory, the speed to receive the data is reduced, **See Col. 5, Line 65-Col. 6, Line 13**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling the speed for receiving the maximum data payload based on the amount being sent, such as the one disclosed within Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows a printer to still receive data from the computer without the need to temporarily

suspend the incoming data or resending the data completely because of an error from overloading.

Regarding claim 21, Tsuchiya ('754) does not disclose controlling the speed for receiving the data based on a reply rate of an ACK and NAK response to the external device.

Itoh ('995) discloses controlling the data based on a reply rate of an ACK (data is successfully being transferred from the computer) and NAK (error) response (the data being transferred is either accepted or denied from the computer, depending on the capacity of the memory, which reduces the receiving speed of the data if fallen below a predetermined level, **See Col. 5, Line 65-Col. 6, Line 13**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling the speed for receiving the data based on the reply rate response, such as the one disclosed within Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows a printer to still receive data from the computer without the need to temporarily suspend the incoming data or resending the data completely because of an error from overloading.

Regarding claim 23, Tsuchiya ('754) discloses that the image forming device is coupled to the external device through a serial bus (communicates with the host computer group thru a 1284 interface, a USB interface or an Ethernet interface, **See Figure 1; Col. 5, Line 50-55**), and the communication interface decides a mode shift by detecting change of an input control signal of a parallel interface, the mode shift

including a shift from or to the normal mode (a command to shift out of sleep mode once incoming data is detected in the interface, **See Col. 7, Line 27-38**).

Regarding claim 25, Tsuchiya ('754) discloses that the image forming device is coupled to the external device through a serial bus (communicates with the host computer group through a 1284 interface, a USB interface or an Ethernet interface, **See Figure 1; Col. 5, Line 50-55**).

Tsuchiya ('754) does not disclose that the communication interface decides the speed for receiving the data based on (1) a rate of notices informing that reception is normally completed, and (2) notices informing that the reception is not normally completed, in replying to the data received from the external device.

Itoh ('995) discloses the speed for receiving data is based on (1) notices that the reception of data is normally completed as well as (2) notices informing that the reception is not normally completed (whether the data being transferred is either accepted or denied, the computer notices since the transfer of data continues or abruptly stops, depending on the capacity of the memory, which reduces the receiving speed of the data if fallen below a predetermined level, **See Col. 5, Line 65-Col. 6, Line 13**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling the speed for receiving the data based on the notices, such as the one disclosed within Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows the computer to know



whether the data is either cancelled, or transmitting at a slower rate, and allows the user to make the appropriate modifications if necessary.

Claims 17, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya ('754) in view of Itoh ('995) as applied to claim 16, and further in view of Kawase ('130).

Regarding claim 17, Tsuchiya ('754) does not disclose having the controller set information in the communication interface for controlling the speed for receiving the data as well as having the communication interface configured to control the speed for receiving the data based on the information set by the controller.

Itoh ('995) discloses a controller (CPU, **See Figure 1, Element 31**) that sets information in the interface for controlling the speed for receiving the data (**See Col. 5, Line 26-27**), and, as a result, the communication interface is configured to control the speed for receiving the data based on the information set (**See Col. 5, Line 15-19**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to including setting information for controlling a speed for receiving data, such as the one disclosed within Ito ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it allows to set the printer for receiving a certain amount of data and well as specify the speed for receiving the data in order to prevent overloading of the memory.

The combination of Tsuchiya ('754) and Itoh ('995) fail to disclose setting the information before going into an off-state.

Kawase ('130) discloses setting information prior to going into an off-state (setting the power-save mode, **See Col. 13, Line 35-45**, before going into an off-state of the power saving mode, **See Col. 14, Line 15-30**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include setting the information before going into an off-state, such as the one disclosed within Kawase ('130), and incorporate it into the controller of Itoh ('995) used within the image forming apparatus of Tsuchiya ('754) because it allows different speeds (modes) to be set before powering down so that optimum power conservation as well as data communication speed is able to occur.

Regarding claim 22, Tsuchiya ('754) discloses that the image forming device is coupled to the external device through a serial bus (communicates with the host computer group through a 1284 interface, a USB interface or an Ethernet interface, **See Figure 1; Col. 5, Line 50-55**).

Tsuchiya ('754) does not disclose that the communication interface is configured to decide whether or not the data including a packet is directed to the image forming apparatus, by referring to an address area in the packet, and to respond to the data being addressed to the image forming apparatus whenever the information is transmitted from the external device.

Kawase ('130) discloses transmitting data that includes packets to an image forming apparatus (**See Figure 1, Element 121; Col. 11, Line 18-30**).

The combination does not *expressly* disclose an address area in the packet is referred to in order to determine that the image forming apparatus is in fact the destination.

However, **OFFICIAL NOTICE** is taken that at the time of the invention, it was known that there was a header section within a packet that references an address of a network destination where the packet was intended to be transmitted.

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include packets whenever transmitting data, such as the one disclosed within Kawase ('130), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it is able to provide data using a fast communication for multiple devices so that the devices know the location of the data being sent as well as be able to respond to commands over the network.

Regarding claim 24, Tsuchiya ('754) discloses that the image forming device is coupled to the external device through a serial bus (communicates with the host computer group through a 1284 interface, a USB interface or an Ethernet interface, **See Figure 1; Col. 5, Line 50-55**).

Tsuchiya ('754) does not disclose that the communication interface decides the speed for receiving the data based on a setting of a data payload in a packet from the external device.

Itoh ('995) discloses controlling the speed for receiving the maximum data payload based on the data sent from the external device (depending on the amount of

data sent from the computer, if it overloads the maximum capacity of the memory, the speed to receive the data is reduced, **See Col. 5, Line 65-Col. 6, Line 13**).

Kawase ('130) discloses transmitting data that includes packets to an image forming apparatus (**See Figure 1, Element 121; Col. 11, Line 18-30**).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to include controlling the speed for receiving the maximum data payload that includes packets based on the amount being whenever transmitting data, such as the one disclosed within Kawase ('130) and Itoh ('995), and incorporate it into the image forming apparatus of Tsuchiya ('754) because it is able to provide data using a fast communication for multiple devices without the need to temporarily suspend the incoming data or resend the data completely because of an error from overloading.

### ***Response to Arguments***

Applicant's arguments, filed 5/7/2009, with respect to the rejection of claims 16, 18-21, 23 and 25 under Miyazaki in view of Wiley, Itoh and Yang as well as claims 17, 22 and 24 under Miyazaki, Wiley, Itoh, Yang and Kawase have been fully considered and are persuasive in light of the newly added limitations to the independent claim. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Tsuchiya in combination with Itoh as applied to claims 16, 18-21, 23 and 25 as well as Tsuchiya in view of Itoh and Kawase as applied to claims 17, 22 and 24. Thus, the prior art of Tsuchiya is used in view of Itoh as well as Tsuchiya is used in view of Itoh and Kawase and together does meet each limitation of the amended claims as fully disclosed within the rejection above.

Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is: Okazawa ('148).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Rudolph whose telephone number is (571) 272-8243. The examiner can normally be reached on Monday through Friday 8 A.M. - 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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